Year 7

Geography Booklet

Poles Apart

Polar Climates

Activity 2 – Climate Graphs

	Jan	Feb	Mar	Apr	May	Jun	July	Aug	Sept	Oct	Nov	Dec
Arctic (°c)	-24	-24	-26	-18	-10	-2	2	3	-3	-10	-18	-22
Antarctic (°c)	-28	-41	-55	-57	-57	-58	-59	-60	-59	-58	-38	-27
London (°c)	4	5	7	9	12	15	18	16	13	10	8	4

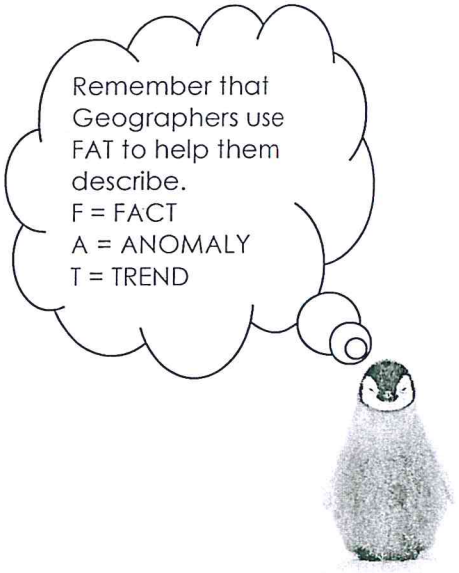
Use the graph paper to display this information.

Describe the climate of the Arctic

F_____

A_____

T_____



Describe the climate of the Arctic

F_____

A_____

T_____

Extension - Describe the climate of London

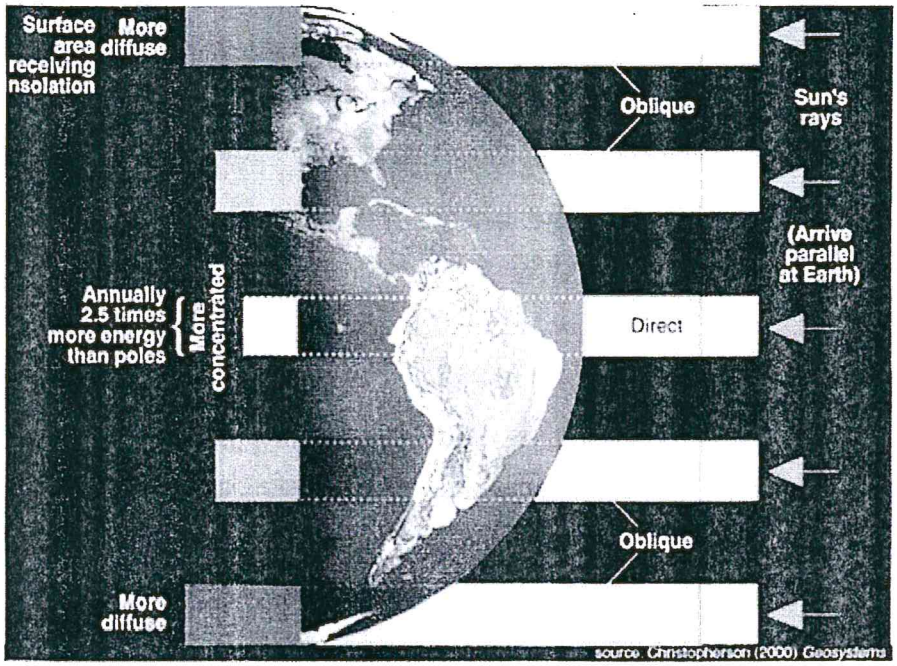
F_____

A_____

T_____

Lesson 3

Why are the poles so cold?



The poles are much cooler than the countries that are closer to the _____. This is because the equator is closer to the _____ than the poles. Also, the heat from the sun is concentrated on a _____ area on the equator but is spread out over a _____ area at the poles.

Word bank wider sun smaller equator

Lesson 5

The Inuit – The Indigenous Population of the Arctic

Instructions	Who are the Inuit?
• You are going to find out about one aspect of the life of the Inuit people who live in the Arctic • First you will need to read the information on the sheets carefully • Then take notes from the information by identifying the most important points and writing them onto this sheet.	
Diet	**Clothing and Tools**
Hunting and Hunting Equipment	**Transport and Dogs**
Housing	**Modern Life**

Who are the Inuit?

Inuit is the general term for a group of culturally similar people. 'Culturally similar' means that they live in a similar way and share similar beliefs.

The Inuit live in the Arctic regions of Alaska, Greenland and Canada. Their language is known as the Eskimo-Aleut language.

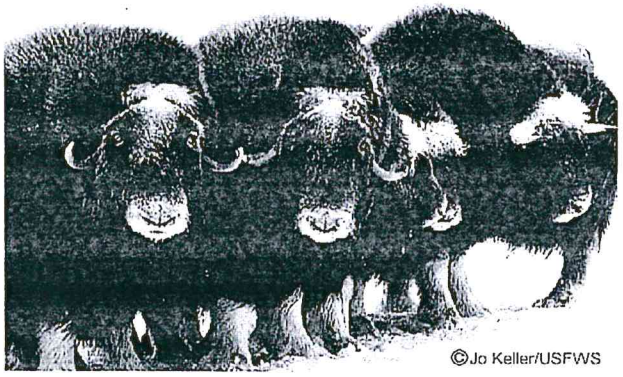
The Inuit have previously been known as Eskimos but this term is not used any more.

The Inuit are semi-nomadic. The term 'nomadic' means moving from one place to another often. 'Semi' means partial (not all the time). So the Inuit live in one place for a period of time before they decide to leave and move to another area. They move because of the seasons and where they can find food.

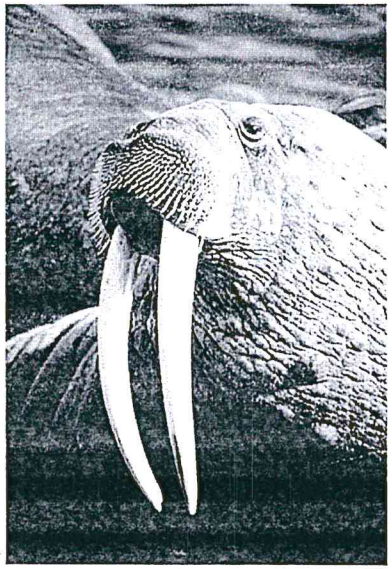
The men were traditionally hunters and fishermen. The women took care of the children, cleaned huts, sewed, processed food and cooked. Although this was normally the case, some women hunted like the men.

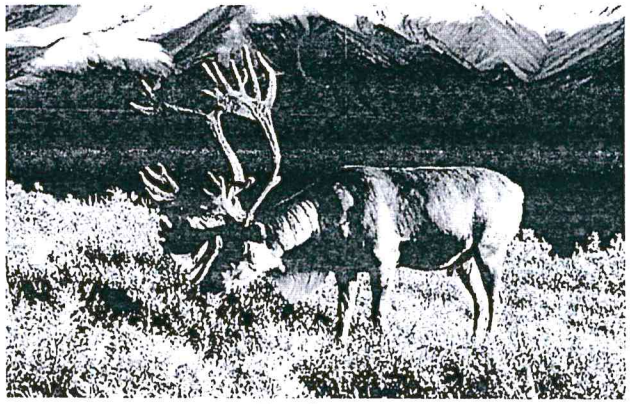
Diet

The Inuit have traditionally been hunters and fishers. They hunted, and still hunt, whales, walruses, caribou, seals, polar bears, muskoxen and birds. Their diet is therefore high in protein and very high in fat. The Inuit relied on hunting and fishing because farming the land is not possible as it is too cold and there is little liquid water for plants. They therefore have traditionally gathered plants that grow naturally in the Arctic. The plants that were gathered during summer and autumn are grasses, tubers (a potato is a tuber), roots, stems, berries and seaweed. These were collected and preserved depending on the season and the location. The Inuit were able to obtain all the vitamins and minerals needed to stay healthy from this diet.



Muskoxen


Walrus


Caribou

Clothing and Tools

The Inuit wasted very little of what was hunted and caught. The whole seal and walrus was used for different things. They made clothes, boats, tents and harpoon lines from these animals. Fuel for light and heat came from walrus and seal skin and fat.

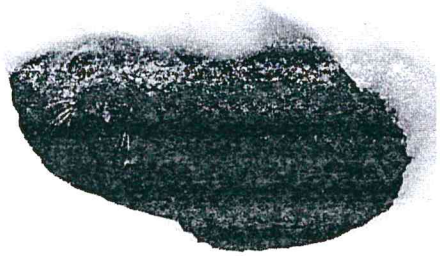
Inuit industry and trade relied almost exclusively on animal hides, driftwood and bones, although some tools were also made out of worked stones (like soapstone that is easy to carve). Walrus ivory was a particularly essential material and was used to make knives. Footwear, as well as clothes were made from animal skins too, sewn together with needles made from animal bones and threads made from sinew (the connective tissue that connects muscles to bones). The anorak was the name of the coat that the Inuit wore and the hood was made larger so a baby could be carried.

Grasses were woven to create baskets.

Hunting and Hunting Equipment

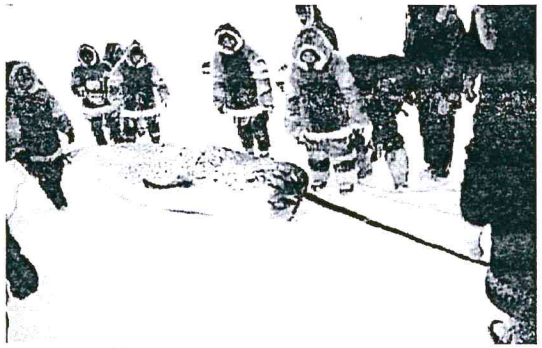
Sea animals were hunted from boats made from seal skin and the Inuit would also hunt sea animals by patiently watching a breathing hole in the ice and waiting for the air-breathing seals to use them. One the seal came to the surface to breath the Inuit would kill them with a spear. Fish were also caught through these holes in the ice, although at times, the holes had to be made manually.

There were many weapons the Inuit used. They used spears, fishing rods, bow and arrows and knives to name a few. They also used something called a Bola. The Bola was a weapon used by aboriginal people throughout America in the past. Those in the south made their Bolas from many local materials. The Inuit made theirs from bone and sinew. The Bola was whirled overhead and thrown at an animals legs to tangle it up. This prevented an animal from escaping. The caribou is a good example of an animal the Inuit would use the Bola for. It is no longer used for hunting, but it still has a use.



A seal at a breathing hole

An Inuit fishing



Hunting party with a narwhal

Inuit Bola

Transport and Dogs

On land, the Inuit used **dog sleds** for transportation (getting from one place to another). The **husky dog breed** comes from the Inuit and was used for this purpose. A **team of dogs** would pull a sled made of **wood**, **animal bones** or the **baleen** from a whale's mouth, over snow and ice. They would use the **stars** and **landmarks** to **navigate** (find their way).

They also used **boats** to move from one are of land or ice to another and to hunt on the sea. The **kayak** that people use today is based upon the Inuit design.

The dogs also **helped to hunt** by sniffing out the seal breathing holes and would **protect** the Inuit villages by barking at polar bears and strangers. They were fed on seal meat.

An Inuit dog sled and huskies

Traditional Inuit kayaks

Housing

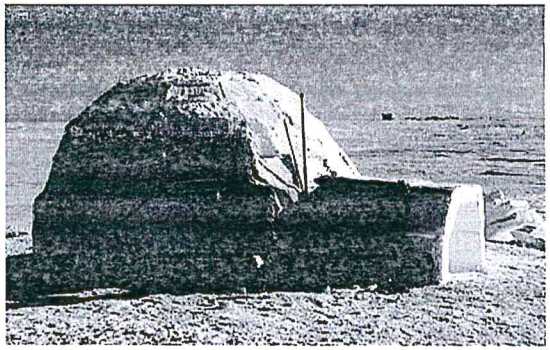
The Inuit lived mainly in temporary shelters. In the winter they built the igloo from blocks of snow, and in the summer, when the temperatures were above freezing, they lived in tents made from animal skins and bones.

There were three different types of igloos, all of different sizes and used for different purposes.

1. The smallest was a temporary shelter, used usually for only one or two nights. They were built during hunting trips.
2. The family sized igloo. It usually had one room and housed one or two families. Often there were several of these in a small area, which formed an Inuit village.
3. The largest igloos were normally built in groups of two. One of them was a temporary structure built for special occasions, the other built for living. This igloo may have had up to five rooms and housed up to 20 people.

Due the insulating properties of snow (the ability to keep in heat), the igloos were surprisingly comfortable and warm inside. If it was built properly it was strong enough for a man to stand on the roof.

Inside an igloo



The family igloo

A summer hide tipi

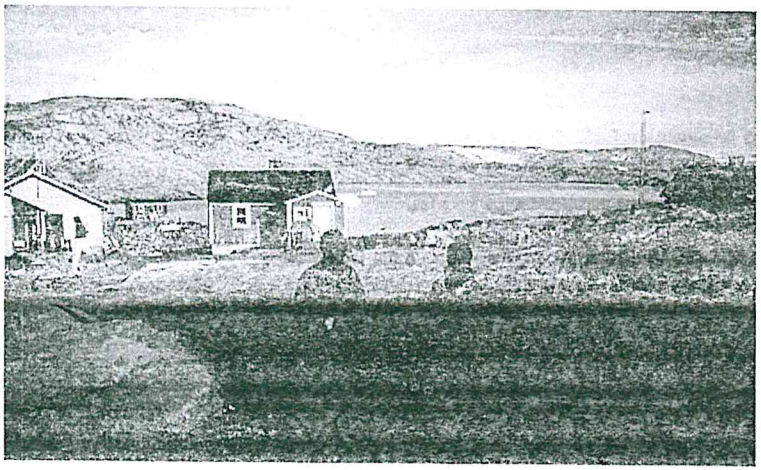
Modern Life

Although Inuit life has changed significantly over the past century, many traditions continue. Traditional storytelling, mythology, and dancing remain important parts of the culture. Family and community are very important. The Inuit language is still spoken in many areas of the Arctic and is common on radio and in television programming.

Recently there has been a struggle for the younger Inuit between their traditional lifestyle and the modern way of life. The Inuit now depend on modern society for jobs, food, aid, medicine etc, so they have much interaction with a different way of life. The Inuit lifestyle has gradually become more 'westernised' (become more like our way of life). The traditional housing of the Inuit is now also changing considerably so houses are made of more modern materials and the settlements are more permanent.

The Inuit are also becoming extremely concerned about the impact that global warming will have upon the Arctic and their way of life and what will happen if the ice sheets melt.

A modern Inuit village (permanent)



Inuit now mainly travel by snowmobile

What affects where we live?

Activity 4 – Positive and Negative Factors

The way that people are spread out across the world is affected by many different factors.

Factors that discourage people from living in an area are called ***negative*** factors (e.g. very cold or poor soils). These areas are usually ***sparsely populated*** (like the Antarctic).

Factors that encourage people to live in an area are called ***positive*** factors. (e.g. good food supply and clean water). These areas are usually ***densely populated*** (like the UK).

Decide whether the following factors are negative or positive and list them in the correct column in the table below.

Very cold Pleasant climate Raw materials Few raw materials

Dense forest Food supply Not many jobs Good soils

Poor soils Steep slopes Clean water supply Little industry

Gentle slopes Good communications Poor water supply

Open grassland Lowland Very hot Industry and jobs Very dry

Negative Factors (Sparsely Populated)	Positive Factors (Densely Populated)

Extension – Explain in detail why Antarctica is sparsely populated. Use the terms **sparsely** populated and **negative** factors. Link your ideas together too e.g. *there is little liquid water so food crops cannot grow*.

The Greenhouse Effect

Try to arrange the following into order.

(There are a few possible answers). Use scissors and glue if you want.

1.The burning of these fuels produces **gases**. One of these gases is called **carbon dioxide** and it is a '**greenhouse gas**'.

2.The concern is that, because of the 'greenhouse effect' the Earth will **increase in temperature** and this is called '**global warming**'.

3.Scientists believe that the build up of 'greenhouse gases' in the atmosphere acts like a **blanket** (or greenhouse) around the planet.

4.Scientists are now trying to **predict** what effect that 'global warming will have on the Earth, but most think that the **polar regions** will be **badly affected**.

5.Humans burn **fossil fuels** (such as coal, oil and natural gas) for **transport**, in **factories** and in **power stations** to produce **power**.

6.Although carbon dioxide **occurs naturally** in our **atmosphere**, its **concentration** (the amount in the air) is **increasing**.

7.They think that this blanket of greenhouse gas **traps heat** from the **sun** and **does not** allow the heat to **escape** back into **space**.

The climate of the past

Take a trip back in time! Find out what scientists have already discovered from ice cores:

740,000 years ago

From the deepest ice core samples ever extracted, scientists have confirmed that in the last 740,000 years, Earth has been through eight separate Ice Ages, when the climate was much colder than today.

73,000 years ago

Dust and ash in the layers of ice show evidence of a huge volcanic eruption in Indonesia, the biggest of the last 500,000 years. As dust and ash blocked out the sun, the eruption probably cooled global temperatures for many years.

12,000 years ago

Thinner layers of ice show that in just a few years, temperatures dropped dramatically. This chill then lasted for another thousand years! From this, scientists have worked out that climate changes can be quicker than previously thought.

1400s

The rise in sodium in the ice marks a time when seas were stormier, throwing up salt onto the ice. Some scientists think that these stormier times mark 'the Little Ice Age', a period of much cooler temperatures that lasted until the 1900s.

1800s

Higher concentrations of carbon dioxide and nitrous oxides trapped in the ice mark the beginning of the Industrial Revolution and the burning of fossil fuels in power stations, factories and cars.

1960s

Ice layers show a drop in the amount of radioactive gases in the ice following the ban on testing atomic bombs in 1963.

2000

After an all-time high in the 1980s, samples of ice from recent years show a drop in lead concentrations in the ice. This shows the impact of the worldwide introduction of lead-free petrol.

Today

By measuring carbon dioxide concentrations trapped in the ice, scientists now know carbon dioxide concentrations today are the highest for 650,000 years. Scientists have linked these higher concentrations with higher temperatures, suggesting global warming.

Ask yourself these questions about what we can learn from the ice:

1. Is the world's climate getting warmer or cooler? How do we know?

2. What forces of nature have helped to change our climate?

3. In what ways have people changed the air quality over time?

Extension - With so many changes in the climate and air quality in the past, do we really need to worry about changes in the future?